



CALL for TUTORIALS

IEEE ENERGY CONVERSION CONGRESS & EXPO PROVIDENCE, RHODE ISLAND, SEP. 12-16

The Nineteenth Annual IEEE Energy Conversion Congress and Exposition (ECCE 2027) will be held in Providence, Rhode Island, USA, from **September 12 to 16, 2027**. ECCE is a leading international forum dedicated to advances in energy conversion technologies and applications. It brings together practicing engineers, researchers, educators, and industry experts for technical exchange, professional development, and collaboration.

The ECCE 2027 Organizing Committee invites proposals for tutorials that provide authoritative, practical, and engaging instruction on established or emerging topics in energy conversion. Tutorials should balance foundational concepts with applications, design guidance, case studies, demonstrations, or hands-on learning whenever appropriate.

Each tutorial is planned as a three-hour session, excluding break time. Each accepted tutorial will receive one complimentary conference registration and a \$1,000 honorarium. Publication of a technical paper requires a paid full registration. **All tutorial proposals should be submitted via the ECCE 2027 web portal under "Call for Tutorials."** Please follow the Tutorial Proposal Form on the website as a submission template. The proposals will be reviewed by a panel of subject-matter experts.

Strongly Encouraged:

- Application-focused instruction on tools, methods, and design practices useful to engineers and researchers
- Timely topics addressing emerging technologies, industry needs, or rapidly developing standards
- A clear balance between theory, practical implementation, and real-world examples
- Industry-led or collaboratively delivered tutorials involving academia, national laboratories, utilities, or government
- Interactive elements such as demonstrations, design exercises, simulations, or case-study discussions
- Clearly stated learning objectives, intended audience, prerequisites, and take-home resources
- Cross-disciplinary coverage that connects devices, converters, controls, systems, applications, and policy where appropriate

Less Attractive to the Audience:

- Lectures that are not balanced between theory and practical application
- Tutorials substantially repeated from recent ECCE programs without meaningful updates
- Narrow presentations focused primarily on the presenters' own published research
- Sessions that promote or solicit a specific commercial product or service
- Proposals without clear learning objectives, audience definition, or an organized three-hour plan
- Overly broad survey lectures that do not provide sufficient technical depth or actionable guidance

Energy Conversion Systems and Applications

- Renewable, distributed, off-grid, and energy-access systems
- Smart grids, microgrids, nanogrids, and hybrid AC/DC networks
- Energy storage, battery management, and bidirectional conversion
- Grid-forming converters, low-inertia grids, stability, and protection
- HVDC, MVDC, FACTS, and high-voltage power conversion
- Transportation electrification and charging infrastructure
- Critical power systems, data centers, and AI computing infrastructure
- Hydrogen, fuel cells, electrolyzers, and power-to-X
- Industrial electrification, efficient buildings, and advanced manufacturing
- AI/ML, digital twins, HIL, cybersecurity, and resilience
- Sustainable design, lifecycle assessment, reuse, and recycling

Component, Converter & Subsystem Technologies

- Power semiconductor devices, gate drivers, and integrated circuits
- Wide- and ultra-wide-bandgap technologies
- Power conversion topologies, modulation, modeling, and control
- Electric machines and drives
- Passive components, magnetics, and advanced materials
- Packaging, integration, and high-density design
- Thermal management and advanced cooling technologies
- EMI/EMC, insulation, and high-voltage design
- Reliability, diagnostics, prognostics, and health management
- Fault-tolerant converters, drives, and systems
- Solid-state transformers, circuit breakers, and wireless power transfer

Other Areas

- Entrepreneurship, technology transfer, and business management
- Ethics and trustworthy AI in energy systems
- Standards, safety, and regulatory developments
- Education, workforce development, and online learning

General Chair

Maryam Saeedifard
Georgia Institute of Technology, USA

General Co-Chair

Navid Zargari
Rockwell Automation, Canada

Tutorial Chairs

Marium Rasheed
Ford Motor Company, USA

Suman Debnath
Oak Ridge National Laboratory, USA

Woongkul Matt Lee
Purdue University, USA

Ozge Taskin
Ametek Airtechnology, UK



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